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10/634,766	08/06/2003	Vincent Muniere	Q76546	6869

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SUGHRUE MION, PLLC
2100 PENNSYLVANIA AVENUE, N.W.
SUITE 800
WASHINGTON, DC 20037

EXAMINER

AFSHAR, KAMRAN

ART UNIT	PAPER NUMBER
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2617

NOTIFICATION DATE	DELIVERY MODE
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04/07/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

sughrue@sughrue.com
PPROCESSING@SUGHRUE.COM
USPTO@SUGHRUE.COM

Office Action Summary	Application No. 10/634,766	Applicant(s) MUNIERE, VINCENT	
	Examiner KAMRAN AFSHAR	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02/22/2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2,8-10,16,17,23-25 and 34-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2,8-10,16,17,23-25 and 34-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed on 08/27/2008 have been fully considered but they are not persuasive.

Applicant's argument that the references fail to show certain features of applicant's invention i.e. EGPRS packet channel request message; and that the EGPRS packet channel request as disclosed in document 3GPP TS 04.60, which is cited at least in Landais is not used by a mobile station for the purpose/requirements of signalling data transfer.

In contrast to Applicant assertion, Examiner frankly content that Landais teaches everything about EGPRS packet channel request which is used by or for (i.e. mobile station , mobile network , etc.) as discussed below:

Examiner very kindly directs the Applicant to i.e. Landais teaches a mobile station and or a mobile network (See Landais e.g. MS and the network of Fig. 1) a method of allocating packet mode resources in a mobile radio system, the method comprising: a mobile station (See Landais e.g. MS communicating via the network as shown in Fig. 1) sending to the network , for signaling data transfer requirement (See Landais e.g. per definition: signaling, mobility management, Page1, ¶ [0018], one-phase or two-phase access, Page 1, ¶ [0023], Landais e.g. differing requirements, mobile station, EGPRS, Page 2, ¶ [0029]),) data transfer (See Landais e.g. transfer of data , TBF, Page 1, ¶ [0023]) an EGPRS (Enhanced General Packet Radio Service) packet channel request (See e.g. packet channel request message to network, Page 4, Lines

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1-3 of ¶ [0081], EGPRS, Page 2, [0029], packet channel request message, Page 2, ¶ [0041]), including cause data specifying signaling data transfer requirements (See Landais e.g. per definition: signaling, mobility management, Page1, ¶ [0018], one-phase or two-phase access, Page 1, ¶ [0023], e.g. as defined: transfer of data, TBF, transmission direction, Page 1, ¶ [0020]). It is noted that Examiner merely using the Page 270, of Document 3GPP TS 04.60 where more detail EGPRS packet channel request as disclosed to indicate that the Packet Channel Request message in Landais is inherently the EGPRS packet channel request message, so as to accommodate the requirements of EGPRS (emphases added).

2. Further, In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (under Description of the prior art (Admitted Prior Art) heading i.e., The problems are recognized / explained and solved in particular on page 8, line 17 to page 13, line 9 of the originally filed specification:

these TCP (Transmission Control Protocol) segments are identified by a sequence number and TCP acknowledgements (TCP ACKs) and are then transmitted in the uplink direction, the acknowledgements being identified by their ACK number. Consider next the handover situation, in which either the MS has decided on cell reselection (mode NCO or NC1) or the network has instructed the MS to effect cell reselection (mode NC2). This situation is also one in which the MS has successfully effected the operations necessary to connect to the new (reselected) cell (corresponding to the BSS(new cell) equipment). The corresponding state is denoted 2 in figure 2 and 2' in figure 3. Consider further the situation of a new (or reselected) cell which supports the PBCCH and the EGPRS PACKET CHANNEL REQUEST message (note, however, that the scenarios explained apply equally well to the situation in which there is no PBCCH in the cell).

In the current version of the standard, there are two scenarios available for resuming, to the new cell, the transfer to the old cell that was interrupted.

A first scenario corresponds to the situation in which the MS still has one or more LCC PDU(s) to send to the network (corresponding to TCP ACKs that were not sent in the old cell).

This first scenario corresponds to the example shown in figure 2. In that example, before changing to state 2, TCP segments with sequence numbers "n" and "n+l" have been transmitted in the downlink direction and a TCP ACK having the number "n+l" has been transmitted in the uplink direction, while the TCP ACK having the number "n+2" has not yet been transmitted.

In this situation, to transmit to the network the TCP ACK having the number "n+2", the MS requests a short access (or a one phase access) by means of the EGPRS PACKET CHANNEL REQUEST message, as shown at 21. In this way, the BSS(new cell) knows that the MS supports the EGPRS. The BSS(new cell) can then allocate a UL TBF in the EGPRS mode, as shown at 22, by sending a PACKET UPLINK ASSIGNMENT message, and can then resume the transfer in the downlink direction in the EGPRS mode.

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The MS then forwards the TCP ACK with the number "n+2" to the BSS(new cell), as shown at 23. The BSS(new cell) forwards the TCP ACK to the SGSN, as shown at 24, and this serves as a cell update for the SGSN. As shown at 25, the SGSN then sends a FLUSH-LL message that commands the BSS(old cell) to reroute to the BSS(new cell) the LLC PDU(s) not yet transmitted in the downlink direction. The BSS(old cell) then sends a FLUSH-LL ACK message to the SGSN, as shown at 26.

To resume the transfer in the downlink direction, the BSS(new cell) then sends the MS a PACKET DOWNLINK ASSIGNMENT message, as shown at 27, advising the MS of the packet mode resources allocated to it, in this instance in the EGPRS mode. Transfer between the MS and the BSS(new cell) can then be resumed in the new cell, as shown at 28, where a TCP segment having the sequence number "n+2" is transmitted in the downlink direction and a TCP ACK having the number "n+3" is transmitted in the uplink direction.

A second scenario corresponds to the situation in which the MS has no LLC PDUs to send.

This second scenario corresponds to the example shown in figure 3. In this example, before going to the state 2', TCP segments having sequence numbers "n" and "n+1" have been transmitted in the downlink direction and TCP ACKs having the numbers "n+1" and "n+2" have been transmitted in the uplink direction.

In this case, as shown at 21', the MS requires a UL TBF to send a cell update message, and according to the current version of the standard, the MS can do this only by means of the CHANNEL REQUEST message (with the "one phase access" cause) or the PACKET CHANNEL REQUEST message (with the "cell update" cause). Unfortunately, the network does not know that the mobile station supports the EGPRS, which means that the network has no choice but to allocate a UL TBF in the GPRS mode, as shown at 22', by sending a PACKET UPLINK ASSIGNMENT message. The MS then sends a cell update message to the BSS(new cell) as shown at 23' (in fact this is an empty LLC PDU). The SGSN forwards the cell update message to the BSS(new cell), as shown at 24'. As shown at 25', the SGSN then sends a FLUSH-LL message that commands the BSS(old cell) to reroute LLC PDU(s) not yet transmitted in the downlink direction to the BSS(new cell). The BSS(old cell) then sends a FLUSH-LL ACK acknowledgement message to the SGSN, as shown at 26'. Thus in this second scenario it is possible to distinguish between two situations (note that two situations could also be distinguished in the first scenario, but this was of no consequence in relation to the statement of the problems).

In a first situation (corresponding to the figure 3 example) the network can establish the DL TBF (for resumption of the transfer in the downlink direction) on the PACCH of the UL TBF created to send the cell update message. For resumption of the transfer in the downlink direction, the BSS(new cell) then, as shown at 27', sends the MS a PACKET DOWNLINK ASSIGNMENT message advising the MS of the packet mode resources allocated to it, in this instance in the GPRS mode. The transfer can then be resumed, as shown at 28', where a TCP segment having the sequence number "n+2" is transmitted in the downlink direction.

In this first situation, it will therefore be necessary to change the mode for the TBF afterwards, and the only way to do this is to release the UL TBF, release the DL TBF, and then re-establish a DL TBF in the EGPRS mode. The releasing of the UL TBF is illustrated by a state denoted 29'. As shown at 30', during the state 29', the BSS(new cell) sends the MS a PACKET UPLINK ACK/NACK message including in particular a final ACK indicator (FAI) bit equal to 1. As shown by a state 31', the DL TBF is still operative. As shown at 32', during the state 31', a TCP segment having the sequence number "n+3" is sent in the downlink direction, after which the mobile station sends a PACKET CONTROL ACK message to the new cell, as shown at 33'. The releasing of the DL TBF and then the re-establishing of a DL TBF in the EGPRS mode are shown by a state denoted 34'. During the state 34', an RLC data block including a final block indicator (FBI) equal to 1 is sent in the downlink direction, as shown at 35', after which a PACKET DOWNLINK ACK/NACK message including a final ACK indicator (FAI) bit equal to 1 is sent in the uplink direction, as shown at 36'. Once the DL TBF in the GPRS mode has been released, a PACKET DOWNLINK ASSIGNMENT message can then be sent to the mobile station on the PACCH, as shown at 37', this message indicating the packet mode resources allocated to the mobile station in the downlink direction, in this instance in the EGPRS mode. The transfer in the downlink direction is then continued in the EGPRS mode, as shown at 38', and a TCP segment having a sequence number "n+4" is sent in the downlink direction and a TCP ACK having the number "n+3" is sent in the uplink direction.

We have found that the above kind of method is not the optimum since the GPRS mode is used instead of the EGPRS mode some of the time, and furthermore because the change from the GPRS mode to the EGPRS mode wastes time. To be more precise, if T denotes the time necessary to resume the transfer in the downlink direction in the EGPRS mode in the first scenario, in which the mobile station still has one or more LLC PDU(s) to send, and T' denotes the time necessary to resume the transfer in the downlink direction in the EGPRS mode in the second scenario, in which the mobile station has no LLC PDU(s) to send, the time T' can be expressed as follows:

$T' = T + T_1 + T_2 + T_3 + T_4$ where: T₁ is the time necessary to be sure that the DL TBF has been established successfully, T₂ is the time necessary to release the UL TBF, T₃ is the average time necessary to transfer half of an LLC PDU on the TBF, and T₄ is the time necessary to release the DL TBF with: $T_1 = RTD + RRB$ (where RTD is the round trip time between the BSS and the MS and RRB is the time needed between an invitation to send, sent by the network, and the response

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of the mobile station), $T_2 = \text{RTD} + \text{RRBP}$, $T_3 = \frac{1}{2} T_{\text{llc_pdu_transfer}}$ (with, for example, $T_{\text{llc_pdu_transfer}} = 200$ ms in the case of a bit rate of 2.5 kbit/s and an LLC PDU size of 500 bytes), and $T_4 = \text{RTD} + \text{RRBP}$.

Considering typical values $\text{RTD} = 120$ ms and $\text{RRBP} = 60$ ms, this can in some cases mean that the GPRS mode continues, in place of the EGPRS mode, for at least 60 ms.

In a second situation in the second scenario, not specifically shown in the figures, the network cannot establish the DL TBF on the PACCH of the UL TBF created to send the cell update message but can only establish the DL TBF on the (P)CCCH, and consequently after the release of the UL TBF created for sending the cell update message. In this case, the BSS(new cell) can directly allocate packet mode resources in the EGPRS mode. The BSS(new cell) then knows the capacities of the MS, thanks to corresponding information contained in the BSSGP frames received from the SGSN. However, the method is still not optimum because of the time wasted waiting for the release of the UL TBF before being able to establish the DL TBF on the (P)CCCH.

To summarize, we have become aware that problems arise due to the various scenarios for resuming the transfer in the downlink direction, according to whether the mobile station has LLC PDU(s) in its buffer or not. This leads to incoherent behavior in the case of cell reselection, especially since in the application based on the TCP the two situations can occur (the mobile station has LLC PDU(s) in its buffer or does not have LLC PDU(s) in its buffer), and moreover, as explained above, transfer in the EGPRS mode is resumed with a time-delay in the situation where the mobile station has no LLC PDUs in its buffer.

The example more specifically described hereinabove is the situation of a cell update in the case of cell reselection in the packet transfer mode. Similar problems arise in other examples, in particular the example of packet mode paging. With the current version of the standard, when the network sends a paging request to a mobile station for services in packet mode, the mobile station must respond by means of a CHANNEL REQUEST message (with a cause corresponding to a one phase access) or a PACKET CHANNEL REQUEST message (with a cause corresponding to a paging request response); thus the network will not know if the mobile station supports the EGPRS and will establish a UL TBF in the GPRS mode, even for a mobile station supporting the EGPRS. When the SGSN receives the response from the mobile station, it can start to send LLC PDUs to the correct cell, i.e. a transfer of user data in the downlink correction can then begin, but problems similar to those described above for the cell update situation therefore also arise, since if the UL TBF is still operative, then the DL TBF will initially be established in the GPRS mode.)

are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Applicant(s) are reminded that the Examiner is entitled to give the broadest reasonable interpretation to the language of the claim. The Examiner is not limited to Applicant's definition, which is not specifically set forth in the claims, *In re Tanaka et al*, 193 USPQ 139, (CCPA) 1977. Therefore, the previous rejection is maintained.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 2, 8-10, 16-17, 23-25, 34-36 are rejected under 35 U.S.C. 102(e) as being anticipated by Landais (U.S. Pub. No.: 2002/0080758 A1).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention “by another,” or by an appropriate showing under 37 CFR 1.131.

With respect to claims 2, 16-17, Landais teaches a mobile station and or a mobile network (See Landais e.g. MS and the network of Fig. 1) a method of allocating packet mode resources in a mobile radio system, the method comprising: a mobile station (See Landais e.g. MS communicating via the network as shown in Fig. 1) sending to the network , for signaling data transfer requirement (See Landais e.g. per definition: signaling, mobility management, Page1, ¶ [0018], one-phase or two-phase access, Page 1, ¶ [0023], Landais e.g. differing requirements, mobile station, EGPRS, Page 2, ¶ [0029]),) data transfer (See Landais e.g. transfer of data , TBF, Page 1, ¶ [0023]) an EGPRS (Enhanced General Packet Radio Service) packet channel request (See e.g. packet channel request message to network, Page 4, Lines 1-3 of ¶ [0081], EGPRS, Page 2, [0029], packet channel request message, Page 2, ¶

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[0041]), including cause data specifying signaling data transfer requirements (See Landais e.g. per definition: signaling, mobility management, Page 1, ¶ [0018], one-phase or two-phase access, Page 1, ¶ [0023], e.g. as defined: transfer of data, TBF, transmission direction, Page 1, ¶ [0020]).

Regarding claims, 8, 23, 34, Landais teaches the signaling data transfer requirements include requirements for transfer of signaling messages (See Landais e.g. per definition: signaling, mobility management, Page 1, ¶ [0018], one-phase or two-phase access, Page 1, ¶ [0023]) in accordance with a mobility management protocol (See Landais e.g. mobility management (MM), Page 1, ¶ [0018]).

Regarding claims 9, 24, 35, Landais teaches signaling messages (See Landais e.g. per definition: signaling, mobility management, Page 1, ¶ [0018], one-phase or two-phase access, Page 1, ¶ [0023]) include a cell update message (inherently) sent in the event of cell reselection during a current user data transfer (See Landais e.g. cell reselection, cell reselection control mode, transfer, Page 2, ¶ [0033]-[0038]).

Regarding claims 10, 25, 36, Landais teaches signal message (inherently) include a paging response (See e.g. the mobile station sends the network a PACKET CHANNEL REQUEST message, as noted at 1, on a common uplink channel (PRACH). The network then responds with a PACKET UPLINK ASSIGNMENT message, as noted at 2, on a common downlink channel (PAGCH or paging), the latter message indicating directly to the mobile station the resources (PDCH) it has been assigned. The mobile station then uses those resources to transmit data (or RLC data blocks), as noted at 3, in the uplink direction, Page 4, ¶ [0077]) message in packet mode prior to a transfer of user data in the downlink direction (See Landais common downlink channel message (response), Page 1, Lines 1-10 of ¶ [0025]).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Kamran Afshar whose telephone number is (571) 272-7796. The examiner can be reached on Monday-Friday.

If attempts to reach the examiner by the telephone are unsuccessful, the examiner's supervisor, **Eng, George** can be reached @ (571) 272-7495. The fax number for the organization where this application or proceeding is assigned is **571-273-8300** for all communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Kamran Afshar/

Primary Examiner, Art Unit 2617

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